# Substitute Declaration for Patent Application

As a named inventor, I hereby declare that:

My residence, mailing address and citizenship are as stated next to my name;

	4-Aminopyrrolopyr	rimidines as Kinas	e Inhibitors	<del></del>					
the spe	cification of which (c	heck one)		,				, · ·	
[]	is attached hereto.								
[X]	was filed on Septe	ember 17, 1999	as Uni	ted States Applica	tion				
	Number or PCT Int	ternational Applica	ation No	09/399,083					
	and was amended of	on	(if applicable	e).					
includi	I hereby state that Ing the claims, as ame				e above-	ident	ified	specificat	ion,
	I acknowledge the cincluding for continuate of the prior application.	ation-in-part applic	cations, mate	rial information w	hich bec	ame	availa	able betwe	en the
country any for	I hereby claim fore ent or inventor's certify other than the Unite eign application for p fore that of the applic	ficate, or 365(a) of d States of Americ patent or inventor's	f any PCT int ca, listed belo certificate, o	ernational applicate w and have also ic r of any PCT inter	tion whi dentified	ch de l belo	signa w, by	ited at leas checking	st one the box,
		<u>Pr</u>	rior Foreign A	Application(s)		Prior No Clair	t	Certi Copy YES	ified Filed? NO
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(Numb	er) y claim the benefit ur	(Country)	(Day/N	Month/Year filed)		HOAL		[]	[ ]
I hereb		nder 35 U.S.C. §11	19(e) of any U	Jnited States provi		细胞	ation		elow.
	cation Number)		(Filin	g Date)	···	<del>2</del> 6	6		
60/10	0,834 cation Number)		(Filin	September 18.	, 1998 <b>S</b>	3	2007	<u> </u>	
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	cation Number)		(Filin	g Date)	, 1770		•••		

09/042,702		March 17, 1998	Pending
(Application Serial No.	)	(Filing date)	(Status: patented, pending, abandoned)
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(Application Serial No.	)	(Filing date)	(Status: patented, pending, abandoned)
(Application Serial No.	)	(Filing date)	(Status: patented, pending, abandoned)
As a named in Hamilton, Brook, Smi Customer No. 2100	th & Ŕeynolo	oy appoint the attorneys and is, P.C., Two Militia Dri	nd/or agents associated with ive, Lexington, Massachusetts 02421-4799
and			
to prosecute this applica	ation and to tr	ansact all business in the	Patent and Trademark Office connected therewith.
Please send corresp	ondence to:		
[X] Customer No.	I	1005 HAMILTON, BROOK, S Two Militia Drive	SMITH & REYNOLDS, P.C.
		Lexington, MA 02421-47	799
or			799
or [ ] Address as fol	Ī		799
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[ ] Address as foll	I lows:		
[ ] Address as followed Direct telephone	lows: ne calls to: <u>F</u>	Lexington, MA 02421-47	
[ ] Address as followed Direct telephone Direct facsimi I hereby declar on information and belithat willful false statem	lows:  ne calls to:F  les to:F  re that all state ef are believe ents and the li United States	Richard W. Wagner, Esq. Richard W. Wagner, Esq. ements made herein of myd to be true; and further the so made are punishable. Code and that such willfur	Telephone No.: 781-861-6240
Direct telephon Direct facsimi  I hereby declar on information and belithat willful false statem 1001 of Title 18 of the	lows:  ne calls to:F  les to:F  re that all state ef are believe ents and the li United States	Richard W. Wagner, Esq. Richard W. Wagner, Esq. ements made herein of myd to be true; and further the so made are punishable. Code and that such willfur	Telephone No.: 781-861-6240  Facsimile No.: 781-861-9540  y own knowledge are true and that all statements made hat these statements were made with the knowledge by fine or imprisonment, or both, under Section
Direct telephon Direct facsimi  I hereby declar on information and beli that willful false statem 1001 of Title 18 of the application or any pater	lows:  ne calls to: _F  les to:F  re that all state ef are believe ents and the li United States nt issued there	Richard W. Wagner, Esq. Richard W. Wagner, Esq. ements made herein of myd to be true; and further the like so made are punishable. Code and that such willfuron.	Telephone No.: 781-861-6240  Facsimile No.: 781-861-9540  y own knowledge are true and that all statements made hat these statements were made with the knowledge by fine or imprisonment, or both, under Section
Direct telephon Direct facsimi  I hereby declar on information and belithat willful false statem 1001 of Title 18 of the application or any pater  Full name of sole or first inventor	lows:  ne calls to: _F  les to: _ F  re that all state ef are believe ents and the li United States nt issued there	Richard W. Wagner, Esq. Richard W. Wagner, Esq. ements made herein of myd to be true; and further the like so made are punishable. Code and that such willfuron.	Telephone No.: 781-861-6240  Facsimile No.: 781-861-9540  y own knowledge are true and that all statements made hat these statements were made with the knowledge e by fine or imprisonment, or both, under Section all false statements may jeopardize the validity of the
Direct telephon Direct facsimi  I hereby declar on information and belithat willful false statem 1001 of Title 18 of the application or any pater  Full name of sole or first inventor	lows:  ne calls to: _F les to: _ F re that all state ef are believe ents and the li United States nt issued there	Richard W. Wagner, Esq. Richar	Telephone No.: 781-861-6240  Facsimile No.: 781-861-9540  y own knowledge are true and that all statements made hat these statements were made with the knowledge e by fine or imprisonment, or both, under Section all false statements may jeopardize the validity of the
Direct telephon Direct facsimi  I hereby declar on information and belithat willful false statem 1001 of Title 18 of the application or any pater  Full name of sole or first inventor Inventor's Signature	lows:  ne calls to: _F  les to:F  re that all state ef are believe ents and the li United States nt issued there  David Cal	Richard W. Wagner, Esq. Richar	Telephone No.: 781-861-6240  Facsimile No.: 781-861-9540  y own knowledge are true and that all statements made hat these statements were made with the knowledge e by fine or imprisonment, or both, under Section all false statements may jeopardize the validity of the
Direct telephon Direct facsimi  I hereby declar on information and belithat willful false statem 1001 of Title 18 of the application or any pater  Full name of sole or first inventor Inventor's Signature	lows:  ne calls to: _F  les to:F  re that all state ef are believe ents and the li United States nt issued there	Richard W. Wagner, Esq. Richar	Telephone No.: 781-861-6240  Facsimile No.: 781-861-9540  y own knowledge are true and that all statements made hat these statements were made with the knowledge e by fine or imprisonment, or both, under Section all false statements may jeopardize the validity of the

Full name of second join	 ut	
inventor, if any	Lee Arnold	
Inventor's Signature		Date
Residence	216 Ruggles Street	
Citizenship	Canada	
Mailing Address	Same as above	
Full name of third joint		
inventor, if any	Hormoz Mazdiyasni	
Inventor's Signature		Date
Residence	19 Old Farm Road	
	Douglas, Massachusetts 01516	
Citizenship	U.S.A.	·
-	Same as above	
	:	
inventor, if any	Gavin C. Hirst	
Inventor's Signature		Date
Residence	112 Robert Road	·
	Marlboro, Massachusetts 01752	
Citizenship	Great Britain	
Mailing Address	Same as above	
Full name of fifth joint		
inventor, if any	Bojuan B. Deng	
Inventor's Signature		Date
Residence		
	Shrewsbury, Massachusetts 01545	
Citizenship	·	
Mailing Address		•

Full name of sixth joint		
inventor, if any	David N. Johnston	
Inventor's Signature		Date
Residence	Pennyfoot Street	
	Nottingham NG1 1GF, England	
Citizenship	Great Britain	
_	Same as above	
	nt	
inventor, if any	Paul Rafferty	
Inventor's Signature		Date
Residence	Pennyfoot Street	
	Nottingham NG1 1GF, England	
Citizenship	Great Britain	
Mailing Address	Same as above	
Full name of eighth join		
inventor, if any		
Inventor's Signature		
Residence		
Citizenship		
Mailing Address	Same as above	
Full name of ninth joint		
inventor, if any	Helen L. Twigger	
Inventor's Signature		Date
Residence	Pennyfoot Street	
	Nottingham NG1 1GF, England	
Citizenship		
Mailing Address		
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Full name of tenth join	nt	
inventor, if any Inventor's Signature Residence	Bus (Julian	Date_5-Mar-01
residence	67425 Novetedt Garmany	
	Germany	
	Same as above	
Full name of eleventh	joint	
Inventor's Signature_		Date
Residence		
Citizenship		
Mailing Address		

::ODMA\MHODMA\iManage;201398;1



### Substitute Declaration for Patent Application

As a named inventor, I hereby declare that:

My residence, mailing address and citizenship are as stated next to my name;

I believe I am the original, first and sole inventor (if only one name is listed) or an original, first and joint inventor (if plural names are listed in the signatory page(s) commencing at page 3 hereof) of the subject matter which is claimed and for which a patent is sought on the invention entitled 4-Aminopyrrolopyrimidines as Kinase Inhibitors the specification of which (check one) [] is attached hereto. was filed on September 17, 1999 as United States Application [X]Number or PCT International Application No. 09/399,083 and was amended on \_\_\_\_\_ (if applicable). I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. §1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application. I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed: Prior Foreign Application(s) Priority Certified Copy Filed? Not Claimed NO (Number) (Day/Month/Year filed) (Country) 1 (Day/Month/Year filed) (Number) (Country) (Number) (Day/Month/Year filed) (Country) I hereby claim the benefit under 35 U.S.C. §119(e) of any United States provisional applications of the states of (Application Number) (Filing Date) 60/100.834 September 18, 199 (Filing Date) (Application Number) September 18, 1998 60/100,954 (Application Number) (Filing Date)

09/042,702		Iarch 17, 1998	Pending
(Application Serial No.)	) (Filin	ng date)	(Status: patented, pending, abandoned)
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As a named in Hamilton, Brook, Smir Customer No. 2100	th & Reynolds, P.C	oint the attorneys and ., Two Militia Drive	or agents associated with the Lexington, Massachusetts 02421-4799
and			,
to prosecute this applica	ation and to transact	all business in the Pa	tent and Trademark Office connected therewith.
Please send corresp	oondence to:		
[ X ] Customer No.	HAMII Two M	LTON, BROOK, SM ilitia Drive ton, MA 02421-479	AITH & REYNOLDS, P.C.
or			
[ ] Address as follows:	lows:		
Direct telephor	ne calls to: <u>Richard</u>	W. Wagner, Esq.	Telephone No.: 781-861-6240
Direct facsimil	les to: Richard	W. Wagner, Esq.	Facsimile No.: 781-861-9540
on information and beli that willful false statem	ef are believed to be ents and the like so r United States Code a at issued thereon.	true; and further tha made are punishable and that such willful	own knowledge are true and that all statements made these statements were made with the knowledge by fine or imprisonment, or both, under Section false statements may jeopardize the validity of the
Full name of sole			
or first inventor	David Calderwo	od	
Inventor's Signature			Date
Residence	4 McCarthy Circ	le	
•	Framingham, Ma	assachusetts 01702	
Citizenship	Great Britain		
Mailing Address	Same as above		

Full name of second join	 nt	
inventor, if any		
•		
Residence		
Citizenship	Canada	
Mailing Address	Same as above	
Full name of third joint	·	
inventor, if any	Hormoz Mazdiyasni	
Inventor's Signature		Date
Residence	19 Old Farm Road	
	Douglas, Massachusetts 01516	
Citizenship	U.S.A.	
	Same as above	
	 :	
inventor, if any	Gavin C. Hirst	
Inventor's Signature		Date
Residence	112 Robert Road	
	Marlboro, Massachusetts 01752	
Citizenship	Great Britain	
Mailing Address	Same as above	
Full name of fifth joint		
inventor, if any	Bojuan B. Deng	
Inventor's Signature		Date
Residence	80 Stoney Hill Road	
	Shrewsbury, Massachusetts 01545	
Citizenship	,	
Mailing Address		

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·	·	
Full name of sixth joint		
inventor, if any	David N. Johnston	
Inventor's Signature		Date
Residence	Pennyfoot Street	
	Nottingham NG1 1GF, England	
Citizenship	Great Britain	
-	Same as above	
	oint	
inventor, if any	Paul Rafferty	
Inventor's Signature		Date
Residence	Pennyfoot Street	
	Nottingham NG1 1GF, England	
Citizenship	Great Britain	
-	Same as above	
inventor, if any	Gerald B. Tometzki	
Inventor's Signature		Date
Residence	Pennyfoot Street	
	Nottingham NG1 1GF, England	
Citizenship	Great Britain	
Mailing Address	Same as above	
Full name of ninth join	t	
inventor, if any		
Inventor's Signature	^	Date 07 MAR ZOO
Residence	(4)	
	Nottingham NG1 1GF, England	
Citizenship	Great Britain	
Mailing Address	Como os chovo	

Full name of tenth joi	nt		
inventor, if any	Rainer Munschauer		
Inventor's Signature_		Date	
Residence	Zepplinstr. 5		
	67435 Neustadt, Germany		
Citizenship	Germany		
Mailing Address	Same as above		
Full name of eleventh inventor, if any			
::ODMA\MHODMA\iManage;2013	98;1		



60/100,954 (Application Number)

#### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

### Substitute Declaration for Patent Application

As a named inventor, I hereby declare that:

My residence, mailing address and citizenship are as stated next to my name;

I believe I am the original, first and sole inventor (if only one name is listed) or an original, first and joint inventor (if plural names are listed in the signatory page(s) commencing at page 3 hereof) of the subject matter which is claimed and for which a patent is sought on the invention entitled 4-Aminopyrrolopyrimidines as Kinase Inhibitors the specification of which (check one) [] is attached hereto. was filed on September 17, 1999 as United States Application [X]Number or PCT International Application No. 09/399,083 and was amended on (if applicable). I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. §1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application. I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed: Prior Foreign Application(s) Priority Certified Not Copy Filed? Claimed NO (Day/Month/Year filed) (Number) (Country) (Day/Month/Year filed) (Number) (Country) (Day/Month/Year filed) (Number) (Country) I hereby claim the benefit under 35 U.S.C. §119(e) of any United States provisional application March 19, 1997 (Application Number) (Filing Date) September 18, 1998 60/100,834 (Filing Date) (Application Number)

September 18, 1998

(Filing Date)

09/042,702		March 17, 1998	Pending
(Application Serial No.)	)	(Filing date)	(Status: patented, pending, abandoned)
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As a named in Hamilton, Brook, Smi Customer No. 2100	th & Reynol	by appoint the attorneys and ds, P.C., Two Militia Dri	nd/or agents associated with ve, Lexington, Massachusetts 02421-4799
and			,
to prosecute this applica	ation and to t	ransact all business in the I	Patent and Trademark Office connected therewith.
Please send corresp	oondence to:		
[X] Customer No.			SMITH & REYNOLDS, P.C.
	•	Two Militia Drive Lexington, MA 02421-47	799
or	•	Two Militia Drive Lexington, MA 02421-47	<b>799</b>
or [ ] Address as foll	]	- ·· · ·	<b>799</b>
	]	- ·· · ·	799
[ ] Address as foll	lows:	- ·· · ·	Telephone No.: 781-861-6240
[ ] Address as followed Direct telephone	lows:	Lexington, MA 02421-47	
Direct telephon Direct facsimil  I hereby declar on information and beli that willful false statem	ne calls to: les to: re that all star ef are believe ents and the l United States	Richard W. Wagner, Esq.  Richard W. Wagner, Esq.  tements made herein of myed to be true; and further thike so made are punishables Code and that such willfu	Telephone No.: 781-861-6240
Direct telephon Direct facsimil  I hereby declar on information and beli that willful false statem 1001 of Title 18 of the	ne calls to: les to: re that all star ef are believe ents and the l United States	Richard W. Wagner, Esq.  Richard W. Wagner, Esq.  tements made herein of myed to be true; and further thike so made are punishables Code and that such willfu	Telephone No.: 781-861-6240  Facsimile No.: 781-861-9540  y own knowledge are true and that all statements made nat these statements were made with the knowledge by fine or imprisonment, or both, under Section
Direct telephon Direct facsimil  I hereby declar on information and belithat willful false statem 1001 of Title 18 of the application or any pater	ne calls to: les to: re that all state of are believe ents and the lunited States at issued ther	Richard W. Wagner, Esq.  Richard W. Wagner, Esq.  Richard W. Wagner, Esq.  tements made herein of myed to be true; and further thike so made are punishables Code and that such willfue on.	Telephone No.: 781-861-6240  Facsimile No.: 781-861-9540  y own knowledge are true and that all statements made nat these statements were made with the knowledge by fine or imprisonment, or both, under Section
Direct telephon Direct facsimil  I hereby declar on information and beli that willful false statem 1001 of Title 18 of the application or any pater	ne calls to: les to: re that all staref are believe ents and the lunited States and therefore the issued therefore the large of the larg	Richard W. Wagner, Esq. Richard W. Wagner, Esq. tements made herein of myed to be true; and further thike so made are punishables Code and that such willfureon.	Telephone No.: 781-861-6240  Facsimile No.: 781-861-9540  y own knowledge are true and that all statements made nat these statements were made with the knowledge e by fine or imprisonment, or both, under Section all false statements may jeopardize the validity of the
Direct telephon Direct facsimil  I hereby declar on information and belithat willful false statem 1001 of Title 18 of the application or any pater  Full name of sole or first inventor	ne calls to: les to: re that all staref are believe ents and the lunited States at issued ther	Richard W. Wagner, Esq. Richard W. Wagner, Esq. tements made herein of myed to be true; and further thike so made are punishables Code and that such willfureon.	Telephone No.: 781-861-6240  Facsimile No.: 781-861-9540  Yown knowledge are true and that all statements made nat these statements were made with the knowledge e by fine or imprisonment, or both, under Section all false statements may jeopardize the validity of the
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Full name of second join	 t	
inventor, if any	Lee Arnold	
•		Date
Residence	216 Ruggles Street	
	Westboro, Massachusetts 01581	
	Canada	
	Same as above	
inventor, if any	Hormoz Mazdiyasni	
Inventor's Signature		
Residence	19 Old Farm Road	
	Douglas, Massachusetts 01516	
	U.S.A.	
Mailing Address	Same as above	
inventor, if any	Gavin C. Hirst	
Inventor's Signature		Date
Residence	112 Robert Road	
	Marlboro, Massachusetts 01752	
Citizenship	Great Britain	
Mailing Address	Same as above	
Full name of fifth joint		
inventor, if any	Bojuan B. Deng	
Inventor's Signature		Date
Residence	80 Stoney Hill Road	
	Shrewsbury, Massachusetts 01545	
Citizenship	Peoples Republic of China	
Mailing Address		

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				·
Full name of sixth joint				
inventor, if any	David N. Johnston	····		
Inventor's Signature			Date	· · · · · · · · · · · · · · · · · · ·
Residence	Pennyfoot Street			
	Nottingham NG1 1GF, England			
Citizenship	Great Britain			
Mailing Address	Same as above			
Full name of seventh joi	nt			
inventor, if any	Paul Rafferty			
Inventor's Signature			Date	
Residence	Pennyfoot Street		·	
	Nottingham NG1 1GF, England			
Citizenship	Great Britain			
Mailing Address	Same as above			
Full name of eighth join	t			
inventor, if any	Gerald-B. Tometzki			
Inventor's Signature	to com		_ Date 06 O	3.01
Residence	Pennyfoot Street	178 OGLE	STREET	-
	Nottingham NG1 1GF, England	HUCKHALL, N	OTTINGHAM	11
Citizenship	Great Britain	N915 7F	-R.	CIBT.
Mailing Address	Same as above			
Full name of ninth joint				
inventor, if any	Helen L. Twigger			
Inventor's Signature			Date	
Residence				
	Nottingham NG1 1GF, England			
Citizenship	Great Britain		···	
Mailing Address				

Full name of tenth joi	nt		
inventor, if any	Rainer Munschauer		
Inventor's Signature_		Date	
Residence	Zepplinstr. 5		
	67435 Neustadt, Germany		
Citizenship	Germany		
Mailing Address	Same as above		
Full name of eleventh inventor, if any	joint		
Mailing Address			
	98;1		



### Substitute Declaration for Patent Application

As a named inventor, I hereby declare that:

My residence, mailing address and citizenship are as stated next to my name;

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[]	is attached hereto.						
[X]	was filed on Sept	tember 17, 1999	as United States Application				
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	and was amended	on	(if applicable).				
includi			d understand the contents of the abo dment referred to above.	ve-ide	entified	specificat	ion,
	including for continulate of the prior appl	uation-in-part applic	formation which is material to patent cations, material information which lonal or PCT international filing date	becan	ne avail	lable betwe	een the
country any for	ent or inventor's cert y other than the Unit	ificate, or 365(a) of ed States of Americ patent or inventor's	ts under 35 U.S.C. 119(a)-(d) or 365 any PCT international application va, listed below and have also identificertificate, or of any PCT international iority is claimed:	which ied be	designation design	ated at leas y checking	st one the box,
		<u>Pr</u>	rior Foreign Application(s)	]	iority Not aimed		ified Filed? NO
(Numb	per)	(Country)	(Day/Month/Year filed)	_ [	]	[ ]	[ ]
(Numb	per)	(Country)	(Day/Month/Year filed)	_ [	]	[ ]	[ ]
(Numb	per)	(Country)	(Day/Month/Year filed)  9(e) of any United States provisional	문 편	]		[ ]
	by claim the benefit u	under 35 U.S.C. §11	9(e) of any United States provisiona  March 19, 1997		li <b>S</b> ior	isted l	pelow.
(Appli	cation Number)		(Filing Date)	<del>7</del> 160 160	<b>6</b> 2001	<del> </del>	
	00,834 cation Number)		September 18, 199 (Filing Date)	<u>§</u>	=		
60/10	00,954		September 18, 199	<u>₹</u>		<u> </u>	a
(Appli	cation Number)		(Filing Date)				

(Application Serial No.)  (Filing date)  (Status: patented, pending, abandoned)  (Application Serial No.)  (Filing date)  (Status: patented, pending, abandoned)  (Application Serial No.)  (Filing date)  (Status: patented, pending, abandoned)  As a named inventor, I hereby appoint the attorneys and/or agents associated with  Hamilton, Brook, Smith & Reynolds, P.C., Two Militia Drive, Lexington, Massachusetts 02421-4799  Customer No. 21005,  and  to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.  Please send correspondence to:  [X] Customer No.  21005  HAMILTON, BROOK, SMITH & REYNOLDS, P.C.  Two Militia Drive  Lexington, MA 02421-4799  or  [] Address as follows:  Direct telephone calls to: Richard W. Wagner, Esq.  Direct facsimiles to: Richard W. Wagner, Esq.  Telephone No.: 781-861-6240  Direct facsimiles to: Richard W. Wagner, Esq.  Facsimile No.: 781-861-9540  I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.  Full name of sole  or first inventor  David Calderwood	09/042,702		March 17, 1998	Pending
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Full name of sole or first inventor David Calderwood  Inventor's Signature Date  Residence 4 McCarthy Circle Framingham, Massachusetts 01702  Citizenship Great Britain	on information and believed that willful false statemed 1001 of Title 18 of the U	ef are believents and the United States	ed to be true; and further th like so made are punishable s Code and that such willful	at these statements were made with the knowledge by fine or imprisonment, or both, under Section
Inventor's Signature	Full name of sole			
Residence 4 McCarthy Circle Framingham, Massachusetts 01702  Citizenship Great Britain	or first inventor	David Ca	alderwood	
Framingham, Massachusetts 01702  Citizenship Great Britain	Inventor's Signature			Date
Citizenship Great Britain	Residence	4 McCar	thy Circle	
•		Framing	ham, Massachusetts 01702	
Mailing Address Same as above	Citizenship	Great Br	itain	
•	Mailing Address	Same as	above	

Full name of second join		
	Lee Arnold	
Inventor's Signature		
Residence		
	Westboro, Massachusetts 01581	
_	Canada	
Mailing Address	Same as above	
Full name of third joint		
inventor, if any	Hormoz Mazdiyasni	
		Date
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Citizenship	U.S.A.	
Mailing Address	Same as above	
Full name of fourth joint		
inventor, if any		
•		
	112 Robert Road	
	Marlboro, Massachusetts 01752	
Citizenship		
Mailing Address	· · · · · · · · · · · · · · · · · · ·	
Full name of fifth joint		
inventor, if any	Bojuan B. Deng	
, ,		
Residence	00.0	
	Shrewsbury, Massachusetts 01545	
Citizenship	Peoples Republic of China	
Mailing Address	-	

	-4-	
-	<del>-4-</del>	
Full name of sixth joint		
inventor, if any	David N. Johnston	
Inventor's Signature		Date
Residence	Pennyfoot Street	
	Nottingham NG1 1GF, England	
Citizenship	Great Britain	
Mailing Address	Same as above	
Full name of seventh jo	int	
inventor, if any		
Inventor's Signature	PI	Date 03.01.01
Residence		
	Nottingham NG1 1GF, England	
Citizenship	Great Britain	
Mailing Address	Same as above	
Full name of eighth join		
	Gerald B. Tometzki	
	Columb . Tomocom	
Residence		
	Nottingham NG1 1GF, England	
Citizenship		
Mailing Address		
Full name of ninth joint		
-	Helen L. Twigger	
•		Date
Residence		
	Nottingham NG1 1GF, England	······································
Citizenship	Great Britain	
Mailing Address	Same as above	

Full name of tenth joi	nt	
inventor, if any	Rainer Munschauer	
Inventor's Signature_		Date
Residence	Zepplinstr. 5	
	67435 Neustadt, Germany	
Citizenship	Germany	
Mailing Address	Same as above	
Full name of eleventh	joint	
Residence		
	·	
Mailing Address		
	98;1	



# Substitute Declaration for Patent Application

As a named inventor, I hereby declare that:

My residence, mailing address and citizenship are as stated next to my name;

	4-Aminopyrrolop	yrimidines as Kinaso	e Inhibitors	
the spe	ecification of which	(check one)		
[]	is attached hereto			
[X]	was filed on Ser	otember 17, 1999	as United States Application	
	Number or PCT I	International Applica	ntion No. 09/399,083	
	and was amended	l on	(if applicable).	
includi			d understand the contents of the abodment referred to above.	ove-identified specification,
	including for continuate of the prior app	uation-in-part applic	formation which is material to paten cations, material information which onal or PCT international filing date	became available between the
country any for	ent or inventor's cer y other than the Uni reign application for	tificate, or 365(a) of ted States of Americ	s under 35 U.S.C. 119(a)-(d) or 365 any PCT international application va, listed below and have also identificertificate, or of any PCT international in the country is claimed:	which designated at least one fied below, by checking the box,
		<u>Pr</u>	ior Foreign Application(s)	Priority Certified Not Copy Filed? Claimed YES NO
(Numb	per)	(Country)	(Day/Month/Year filed)	_ [ ] .[ ] [ ]
(Numb	per)	(Country)	(Day/Month/Year filed)	_ [ ] [ ] [ ]
(Numb	per)	(Country)	(Day/Month/Year filed)	
	by claim the benefit	under 35 U.S.C. §11	9(e) of any United States provisions  March 19, 1997	al applications listed below
	cation Number)		(Filing Date)	<b>€</b> 00/2900
	00,834		September 18, 199	8 729 1 □
`	cation Number)		(Filing Date)	_
60/10 (Appli	00,954 cation Number)		September 18, 199 (Filing Date)	8

(Application Serial No.)  (Application Serial No.)  (Filing date)  (Status: patented, pending, abandoned)  (Application Serial No.)  (Filing date)  (Status: patented, pending, abandoned)  (Application Serial No.)  (Filing date)  (Status: patented, pending, abandoned)  (Application Serial No.)  (Filing date)  (Status: patented, pending, abandoned)  As a named inventor, I hereby appoint the attorneys and/or agents associated with Hamilton, Brook, Smith & Reynolds, P.C., Two Militia Drive, Lexington, Massachusetts 02421-4799  Customer No. 21005,  and  to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.  Please send correspondence to:  [X] Customer No.  21005  HAMILTON, BROOK, SMITH & REYNOLDS, P.C.  Two Militia Drive  Lexington, MA 02421-4799  or  [] Address as follows:  Direct telephone calls to: Richard W. Wagner, Esq. Telephone No.: 781-861-6240  Direct facsimiles to: Richard W. Wagner, Esq. Facsimile No.: 781-861-9540  I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.  Full name of sole or first inventor David Calderwood Inventor's Signature David Calderwood Franches Massachusetts 01702  Citizenship Great Britain  Mailing Address Same as above	09/042,702	March 17, 1998	Pending
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or first inventor David Calderwood	on information and beli that willful false statem 1001 of Title 18 of the	ief are believed to be true; and further nents and the like so made are punisha United States Code and that such will	that these statements were made with the knowledge able by fine or imprisonment, or both, under Section
Inventor's Signature	Full name of sole		
Residence 4 McCarthy Circle Framingham, Massachusetts 01702  Citizenship Great Britain	or first inventor	David Calderwood	
Framingham, Massachusetts 01702  Citizenship Great Britain	Inventor's Signature	——————————————————————————————————————	Date
Citizenship Great Britain	Residence	4 McCarthy Circle	
• •		Framingham, Massachusetts 017	02
Mailing Address Same as above	Citizenship	Great Britain	
	Mailing Address	Same as above	

Full name of second joint		
inventor, if any		
· · · · · · · · · · · · · · · · · · ·		
	216 Ruggles Street	
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Citizenship	Canada	
Mailing Address	Same as above	
Full name of third joint		
inventor, if any	Hormoz Mazdiyasni	
Inventor's Signature		Date
Residence	19 Old Farm Road	
	Douglas, Massachusetts 01516	
Citizenship	U.S.A.	
_	Same as above	
Full name of fourth joint		
inventor, if any	Gavin C. Hirst	
Inventor's Signature		Date
Residence	112 Robert Road	
	Marlboro, Massachusetts 01752	
Citizenship	Great Britain	
Mailing Address	Same as above	
Full name of fifth joint		
inventor, if any	Bojuan B. Deng	
Inventor's Signature		Date
Residence	80 Stoney Hill Road	
	Shrewsbury, Massachusetts 01545	
Citizenship	Peoples Republic of China	
Mailing Address		

Full name of sixth joint	:	
inventor, if any	David N. Johnston	
Inventor's Signature	0000	Date 2 March 2001
Residence	Pennyfoot Street	
	Nottingham NG1 1GF, England	
Citizenship	Great Britain	
Mailing Address	Same as above	
Full name of seventh jo	int	
inventor, if any	Paul Rafferty	
Inventor's Signature		Date
Residence	Pennyfoot Street	
	Nottingham NG1 1GF, England	
Citizenship	Great Britain	
Full name of eighth join	nt	
inventor, if any	Gerald B. Tometzki	
Inventor's Signature		Date
Residence	Pennyfoot Street	
	Nottingham NG1 1GF, England	
Citizenship	Great Britain	
Mailing Address	Same as above	
Full name of ninth joint	t	
inventor, if any	Helen L. Twigger	
Inventor's Signature		Date
Residence	Pennyfoot Street	
	Nottingham NG1 1GF, England	
Citizenship	Great Britain	
Mailing Address	Same as above	

Full name of tenth joir	ıt .	
inventor, if any	Rainer Munschauer	
Inventor's Signature		Date
Residence	Zepplinstr. 5	
	67435 Neustadt, Germany	
Citizenship	Germany	
Mailing Address	Same as above	
Full name of eleventh	joint	
Inventor's Signature		Date
Mailing Address		
::ODMA\MHODMA\iManage;20139	8;1	



(Application Number)

#### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

## Substitute Declaration for Patent Application

As a named inventor, I hereby declare that:

My residence, mailing address and citizenship are as stated next to my name;

I believe I am the original, first and sole inventor (if only one name is listed) or an original, first and joint inventor (if plural names are listed in the signatory page(s) commencing at page 3 hereof) of the subject matter which is claimed and for which a patent is sought on the invention entitled 4-Aminopyrrolopyrimidines as Kinase Inhibitors the specification of which (check one) is attached hereto. [X] was filed on September 17, 1999 as United States Application Number or PCT International Application No. 09/399,083 and was amended on \_\_\_\_\_ (if applicable). I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. §1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application. I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed: Prior Foreign Application(s) **Priority** Certified Copy Filed? Not Claimed NO (Day/Month/Year filed) (Number) (Country) (Day/Month/Year filed) (Number) (Country) (Number) (Day/Month/Year filed) (Country) I hereby claim the benefit under 35 U.S.C. §119(e) of any United States provisional application( March 19, 1997 (Application Number) (Filing Date) 60/100,834 September 18, 1998 (Application Number) (Filing Date) 60/100,954 September 18, 1998

(Filing Date)

09/042,702		ch 17, 1998	Pending
(Application Serial No.)	(Filing	date)	(Status: patented, pending, abandoned)
(Application Serial No.)	(Filing	date)	(Status: patented, pending, abandoned)
(Application Serial No.)	(Filing	date)	(Status: patented, pending, abandoned)
(Application Serial No.)	(Filing	date)	(Status: patented, pending, abandoned)
As a named inv Hamilton, Brook, Smit Customer No. 2100	th & Reynolds, P.C., T	t the attorneys and/ο Γ <b>wo Militia Drive,</b>	or agents associated with Lexington, Massachusetts 02421-4799
and			
to prosecute this applica	ation and to transact all	business in the Pate	ent and Trademark Office connected therewith.
Please send corresp	oondence to:		
[ X ] Customer No.	HAMILT Two Milit		TTH & REYNOLDS, P.C.
[ ] Address as foll	lows:	•	
Direct telephor	ne calls to: Richard W	'. Wagner, Esq.	Telephone No.: 781-861-6240
Direct facsimil	les to: Richard W	'. Wagner, Esq.	Facsimile No.: 781-861-9540
on information and believed that willful false statemed 1001 of Title 18 of the application or any patern	ef are believed to be truents and the like so mad United States Code and at issued thereon.	ue; and further that t de are punishable by I that such willful fa	on knowledge are true and that all statements made hese statements were made with the knowledge of fine or imprisonment, or both, under Section lese statements may jeopardize the validity of the
on information and believed that willful false statemed 1001 of Title 18 of the application or any patern	ef are believed to be truents and the like so mad United States Code and	ue; and further that t de are punishable by I that such willful fa	hese statements were made with the knowledge in fine or imprisonment, or both, under Section lse statements may jeopardize the validity of the
on information and beliethat willful false statemed 1001 of Title 18 of the application or any pater	ef are believed to be truents and the like so mad United States Code and it issued thereon.	ue; and further that the are punishable by I that such willful fa	hese statements were made with the knowledge in fine or imprisonment, or both, under Section lse statements may jeopardize the validity of the
on information and belie that willful false statemed 1001 of Title 18 of the application or any pater Full name of sole	ef are believed to be truents and the like so mad United States Code and it issued thereon.  David Calderwood	ue; and further that the de are punishable by I that such willful fa	hese statements were made with the knowledge in fine or imprisonment, or both, under Section lse statements may jeopardize the validity of the
on information and beliethat willful false statemed 1001 of Title 18 of the lapplication or any pater.  Full name of sole or first inventor	ef are believed to be truents and the like so mad United States Code and it issued thereon.  David Calderwood	ue; and further that the de are punishable by that such willful fa	hese statements were made with the knowledge in fine or imprisonment, or both, under Section lse statements may jeopardize the validity of the
on information and beliethat willful false statemed 1001 of Title 18 of the Lapplication or any pater.  Full name of sole or first inventor	ef are believed to be truents and the like so mad United States Code and it issued thereon.  David Calderwood	ue; and further that the de are punishable by I that such willful fa	hese statements were made with the knowledge in fine or imprisonment, or both, under Section lese statements may jeopardize the validity of the
on information and beliethat willful false statemed 1001 of Title 18 of the Lapplication or any pater.  Full name of sole or first inventor  Inventor's Signature	ef are believed to be truents and the like so mad United States Code and it issued thereon.  David Calderwood  4 McCarthy Circle  Framingham, Mass.	ae; and further that the de are punishable by that such willful fa	hese statements were made with the knowledge of fine or imprisonment, or both, under Section less statements may jeopardize the validity of the

Full name of second joir					
inventor, if any	Lee Arnold				
Inventor's Signature		Date			
Residence	216 Ruggles Street				
	Westboro, Massachusetts 01581				
Citizenship	Canada				
	Same as above				
	·				
inventor, if any	Hormoz Mazdiyasni				
Inventor's Signature					
	19 Old Farm Road				
	Douglas, Massachusetts 01516				
Citizenship	U.S.A.				
	Same as above				
inventor, if any	Gavin C. Hirst	ť			
Residence	112 Robert Road				
	Marlboro, Massachusetts 01752				
Citizenship	Great Britain				
Mailing Address	Same as above				
inventor, if any	Bojuan B. Deng				
Inventor's Signature	14 DZ	Date 2/28/01			
Residence	80 Stoney Hill Road	/ /			
	Shrewsbury, Massachusetts 01545				
Citizenship	Peoples Republic of China				
Mailing Address	Same as above				

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	-4-	
Full name of sixth joint		
inventor, if any	David N. Johnston	
Inventor's Signature		Date
Residence	Pennyfoot Street	
	Nottingham NG1 1GF, England	
Citizenship	Great Britain	
Mailing Address	Same as above	
Full name of seventh join	at	
inventor, if any	Paul Rafferty	
Inventor's Signature		Date
Residence	Pennyfoot Street	
	Nottingham NG1 1GF, England	
Citizenship	Great Britain	
Mailing Address	Same as above	
Full name of eighth joint		
	Gerald B. Tometzki	
Residence	Pennyfoot Street	
	Nottingham NG1 1GF, England	
Citizenship	Great Britain	
Mailing Address		
Full name of ninth joint		
inventor, if any	Helen L. Twigger	
Inventor's Signature		Date
Residence		
	NOT TOP E 1 1	
Citizenship	Great Britain	
Mailing Address		

Full name of tenth joi	nt		
inventor, if any	Rainer Munschauer		
Inventor's Signature_		Date	_
Residence	Zepplinstr. 5		_
	67435 Neustadt, Germany		
Citizenship	Germany		
	Same as above		
			_
Full name of eleventh			
inventor, if any			
Inventor's Signature_		Date	
Residence		*	_
Cities and it			
Mailing Address			
::ODMA\MHODMA\iManage;2013	98;1		_



(Application Number)

#### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

## Substitute Declaration for Patent Application

As a named inventor, I hereby declare that:

My residence, mailing address and citizenship are as stated next to my name;

I believe I am the original, first and sole inventor (if only one name is listed) or an original, first and joint inventor (if plural names are listed in the signatory page(s) commencing at page 3 hereof) of the subject matter which is claimed and for which a patent is sought on the invention entitled 4-Aminopyrrolopyrimidines as Kinase Inhibitors the specification of which (check one) is attached hereto. was filed on September 17, 1999 as United States Application [X]Number or PCT International Application No. 09/399,083 and was amended on \_\_\_\_\_ (if applicable). I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. §1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application. I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed: Prior Foreign Application(s) **Priority** Certified Not Copy Filed? Claimed NO (Day/Month/Year filed) (Number) (Country) (Day/Month/Year filed) (Number) (Country) (Number) (Day/Month/Year filed) (Country) I hereby claim the benefit under 35 U.S.C. §119(e) of any United States provisional applications March 19, 1997 (Application Number) (Filing Date) September 18, 1998 60/100,834 (Application Number) (Filing Date) September 18, 1998 60/100,954

(Filing Date)

09/042,702		March 17, 1998	Pending	
(Application Serial No.	)	(Filing date) (Status: patented, pending, abandoned)		
(Application Serial No.	)	(Filing date)	(Status: patented, pending, abandoned)	
(Application Serial No.	)	(Filing date)	(Status: patented, pending, abandoned)	
(Application Serial No.	)	(Filing date)	(Status: patented, pending, abandoned)	
As a named in Hamilton, Brook, Smi Customer No. 210	th & Reynol	eby appoint the attorneys ard lds, P.C., Two Militia Drivers	nd/or agents associated with ve, Lexington, Massachusetts 02421-4799	
and			,	
to prosecute this applica	ation and to t	ransact all business in the I	Patent and Trademark Office connected therewith.	
Please send corresp	ondence to	:		
[X] Customer No.	HAMILTON, BROOK, SMITH & REYNOLDS, P.C. Two Militia Drive			
		Two Militia Drive		
or				
or [ ] Address as foll		Two Militia Drive		
		Two Militia Drive		
[ ] Address as foll	lows:	Two Militia Drive		
[ ] Address as folion	lows: ne calls to: _	Two Militia Drive Lexington, MA 02421-47		
Direct telephon Direct facsimi  I hereby declar on information and belithat willful false statem 1001 of Title 18 of the application or any pater	ne calls to: les to: re that all sta ef are believ ents and the United State at issued ther	Two Militia Drive Lexington, MA 02421-47  Richard W. Wagner, Esq.  Richard W. Wagner, Esq.  tements made herein of my ed to be true; and further th like so made are punishable s Code and that such willfureon.	Telephone No.: 781-861-6240  Facsimile No.: 781-861-9540  rown knowledge are true and that all statements made at these statements were made with the knowledge by fine or imprisonment, or both, under Section I false statements may jeopardize the validity of the	
Direct telephon Direct facsimi  I hereby declar on information and belithat willful false statem 1001 of Title 18 of the application or any pater	ne calls to: les to: re that all sta ef are believ ents and the United State at issued ther	Two Militia Drive Lexington, MA 02421-47  Richard W. Wagner, Esq.  Richard W. Wagner, Esq.  tements made herein of my ed to be true; and further th like so made are punishable s Code and that such willfureon.	Telephone No.: 781-861-6240  Facsimile No.: 781-861-9540  r own knowledge are true and that all statements made at these statements were made with the knowledge by fine or imprisonment, or both, under Section	
Direct telephon Direct facsimi  I hereby declar on information and belithat willful false statem 1001 of Title 18 of the application or any pater	ne calls to: les to: re that all sta ef are believ ents and the United State nt issued ther	Two Militia Drive Lexington, MA 02421-47  Richard W. Wagner, Esq.  Richard W. Wagner, Esq.  tements made herein of my ed to be true; and further th like so made are punishable s Code and that such willfureon.	Telephone No.: 781-861-6240  Facsimile No.: 781-861-9540  rown knowledge are true and that all statements made at these statements were made with the knowledge by fine or imprisonment, or both, under Section I false statements may jeopardize the validity of the	
Direct telephon Direct facsimi  I hereby declar on information and belifthat willful false statem 1001 of Title 18 of the application or any pater  Full name of sole or first inventor	ne calls to:  les to:  re that all sta ef are believ ents and the United State at issued ther  David Ca	Two Militia Drive Lexington, MA 02421-47  Richard W. Wagner, Esq.  Richard W. Wagner, Esq.  tements made herein of my ed to be true; and further th like so made are punishable s Code and that such willfureon.	Telephone No.: 781-861-6240  Facsimile No.: 781-861-9540  rown knowledge are true and that all statements made the these statements were made with the knowledge by fine or imprisonment, or both, under Section I false statements may jeopardize the validity of the	
Direct telephon Direct facsimi  I hereby declar on information and belifthat willful false statem 1001 of Title 18 of the application or any pater  Full name of sole or first inventor	ne calls to:  les to:  re that all sta ef are believ ents and the United State nt issued ther  David Ca	Two Militia Drive Lexington, MA 02421-47  Richard W. Wagner, Esq.  Richard W. Wagner, Esq.  tements made herein of my ed to be true; and further th like so made are punishable s Code and that such willfu eon.	Telephone No.: 781-861-6240  Facsimile No.: 781-861-9540  rown knowledge are true and that all statements made at these statements were made with the knowledge by fine or imprisonment, or both, under Section I false statements may jeopardize the validity of the	
Direct telephon Direct facsimi  I hereby declar on information and belithat willful false statem 1001 of Title 18 of the application or any pater  Full name of sole or first inventor  Inventor's Signature	ne calls to: les to: re that all sta ef are believ ents and the United State at issued ther David Ca	Two Militia Drive Lexington, MA 02421-47  Richard W. Wagner, Esq.  Richard W. Wagner, Esq.  tements made herein of my ed to be true; and further th like so made are punishable s Code and that such willfureon.	Telephone No.: 781-861-6240  Facsimile No.: 781-861-9540  rown knowledge are true and that all statements made at these statements were made with the knowledge by fine or imprisonment, or both, under Section I false statements may jeopardize the validity of the	
Direct telephon Direct facsimi  I hereby declar on information and belithat willful false statem 1001 of Title 18 of the application or any pater  Full name of sole or first inventor  Inventor's Signature	lows:  ne calls to:  les to:  re that all sta ef are believ ents and the United State nt issued ther  David Ca  4 McCar  Framingl	Two Militia Drive Lexington, MA 02421-47  Richard W. Wagner, Esq.  Richard W. Wagner, Esq.  tements made herein of my ed to be true; and further th like so made are punishable s Code and that such willfureon.  alderwood  thy Circle  ham, Massachusetts 01702	Telephone No.: 781-861-6240  Facsimile No.: 781-861-9540  rown knowledge are true and that all statements made at these statements were made with the knowledge by fine or imprisonment, or both, under Section I false statements may jeopardize the validity of the	

Full name of second jo	int	
-	Lee Arnold	
Residence	216 Ruggles Street	
	Westboro, Massachusetts 01581	
Citizenship	Canada	
Mailing Address	Same as above	
Full name of third joint	t	
inventor, if any	Hormoz Mazdiyasni	
Inventor's Signature		Date
Residence	19 Old Farm Road	
	Douglas, Massachusetts 01516	
Citizenship	U.S.A.	
Mailing Address	Same as above	
	nt	
	Gavin C. Hirst	
Inventor's Signature		Date <u>2/28/0/</u>
Residence	112 Robert Road	·
	Marlboro, Massachusetts 01752	
Citizenship	Great Britain	
Mailing Address	Same as above	
Full name of fifth joint		
inventor, if any	Bojuan B. Deng	
Inventor's Signature	-	Date
Residence	80 Stoney Hill Road	
	Shrewsbury, Massachusetts 01545	
Citizenship		
Mailing Address		

	- <b>4</b> -	
Full name of sixth join	 .t	
inventor, if any	David N. Johnston	
Inventor's Signature		Date
Residence	Pennyfoot Street	
	Nottingham NG1 1GF, England	
Citizenship	Great Britain	
Mailing Address	Same as above	·
Full name of seventh j	oint	
inventor, if any	Paul Rafferty	
Inventor's Signature		Date
Residence	Pennyfoot Street	
	Nottingham NG1 1GF, England	
Citizenship	Great Britain	
Mailing Address	Same as above	
	int	
inventor, if any	Gerald B. Tometzki	0
Inventor's Signature		Date
Residence	Pennyfoot Street	
	Nottingham NG1 1GF, England	
Citizenship		·
Mailing Address	Same as above	
Full name of ninth joir		
inventor, if any	Helen L. Twigger	
	n	
	Nottingham NG1 1GF, England	
Citizenship	Great Britain	
<del>-</del>	Same as above	

Full name of tenth joi	nt		
inventor, if any	Rainer Munschauer		
Inventor's Signature_		Date	
Residence	Zepplinstr. 5	····	
	67435 Neustadt, Germany		
Citizenship	Germany		
Mailing Address	Same as above		
	joint		

200



# Substitute Declaration for Patent Application

As a named inventor, I hereby declare that:

My residence, mailing address and citizenship are as stated next to my name;

	4-Aminopyrrolop	yrimidines as Kinase	e Inhibitors	
the spe	cification of which (	(check one)		
[]	is attached hereto.			
[X]	was filed on Sep	tember 17, 1999	as United States Applicat	ion
	Number or PCT Is	nternational Applica	ation No. 09/399,083	
	and was amended	on	(if applicable).	
includi			d understand the contents of the dment referred to above.	above-identified specification,
	including for continulate of the prior appl	uation-in-part applic	cations, material information wi	patentability as defined in 37 C.F.R. nich became available between the date of the continuation-in-part
country any for	ent or inventor's cert y other than the Unit	ificate, or 365(a) of ed States of Americ patent or inventor's	any PCT international applicat a, listed below and have also id certificate, or of any PCT inter	r 365(b) of any foreign application(s) ion which designated at least one entified below, by checking the box, national application having a filing
		<u>Pr</u>	ior Foreign Application(s)	Priority Certified Not Copy Filed? Claimed YES NO
(Numb	er)	(Country)	(Day/Month/Year filed)	
(Numb	er)	(Country)	(Day/Month/Year filed)	
(Numb	er)	(Country)	(Day/Month/Year filed)	
		ınder 35 U.S.C. §11	9(e) of any United States provi	
	0,836 cation Number)		March 19, 199 (Filing Date)	7 600/28 1998 1998
	0,834		September 18,	1998
(Applie	cation Number)		(Filing Date)	300
	0,954 cation Number)	-	September 18, (Filing Date)	1998

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information known by me to be material to patentability as defined in 37 C.F.R. 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

09/042,702		March 17, 1998	Pending
(Application Serial No.	)	(Filing date)	(Status: patented, pending, abandoned)
(Application Serial No.	)	(Filing date)	(Status: patented, pending, abandoned)
(Application Serial No.	)	(Filing date)	(Status: patented, pending, abandoned)
(Application Serial No.	)	(Filing date)	(Status: patented, pending, abandoned)
As a named in Hamilton, Brook, Smi Customer No. 2100	th & Reyno	reby appoint the attorneys a blds, P.C., Two Militia Dr	and/or agents associated with ive, Lexington, Massachusetts 02421-4799
and			· · · · · · · · · · · · · · · · · · ·
to prosecute this applica	ation and to	transact all business in the	Patent and Trademark Office connected therewith.
Please send corresp	ondence to	):	
[X] Customer No.		21005 HAMILTON, BROOK, Two Militia Drive Lexington, MA 02421-4	SMITH & REYNOLDS, P.C.
[ ] Address as follows:	lows:		
Direct telepho	ne calls to:	Richard W. Wagner, Esq.	Telephone No.: 781-861-6240
Direct facsimil	les to:	Richard W. Wagner, Esq.	Facsimile No.: 781-861-9540
on information and beli that willful false statem	ef are belied ents and the United State of issued the	ved to be true; and further to like so made are punishables Code and that such willforceon.	y own knowledge are true and that all statements made hat these statements were made with the knowledge le by fine or imprisonment, or both, under Section ul false statements may jeopardize the validity of the
Full name of sole			
or first inventor	David C	Calderwood	
Inventor's Signature			Date
Residence		rthy Circle	
		gham, Massachusetts 0170	2
Citizenship			
Mailing Address	Same as	s above	
	-		

Full name of second jo	int	
inventor, if any	Lee Arnold	
Inventor's Signature	duD. Chold	Date Jeb 28/01
	Westboro, Massachusetts 01581	· · · · · · · · · · · · · · · · · · ·
Citizenship	Canada	
Mailing Address	Same as above	
Full name of third join	t	
inventor, if any	Hormoz Mazdiyasni	
Inventor's Signature		Date
Residence	19 Old Farm Road	
	Douglas, Massachusetts 01516	
	U.S.A.	
Mailing Address	Same as above	
Full name of fourth joi	nt	
inventor, if any	Gavin C. Hirst	
		Date
Residence	112 Robert Road	
	Marlboro, Massachusetts 01752	
Citizenship	Great Britain	
Mailing Address	Same as above	
Full name of fifth joint		
inventor, if any	Bojuan B. Deng	
Inventor's Signature		Date
Residence	80 Stoney Hill Road	
# = 1 - 1	Shrewsbury, Massachusetts 01545	
	D 1 D 11: COL:	
Citizenship	Peoples Republic of China	

	-4-	
Full name of sixth joint		
inventor, if any	David N. Johnston	
Inventor's Signature		Date
Residence	Pennyfoot Street	
	Nottingham NG1 1GF, England	
Citizenship	Great Britain	
-	Same as above	
Full name of seventh jo	int	
inventor, if any	Paul Rafferty	
Inventor's Signature		Date
Residence	Pennyfoot Street	
	Nottingham NG1 1GF, England	
Citizenship	Great Britain	
Mailing Address		
	nt	
inventor, if any	Gerald B. Tometzki	
Inventor's Signature		Date
Residence	Pennyfoot Street	
	Nottingham NG1 1GF, England	
Citizenship	Great Britain	
Mailing Address	Same as above	
Full name of ninth joint		
inventor, if any	Helen L. Twigger	
Inventor's Signature		
Residence	<del></del>	
ſ		·
Citizenship		
Mailing Address		

Full name of tenth joi	nt	
inventor, if any	Rainer Munschauer	
Inventor's Signature_		Date
Residence	Zepplinstr. 5	
	67435 Neustadt, Germany	
Citizenship	Germany	
Mailing Address	Same as above	
Full name of eleventh	joint	
::ODMA\MHODMA\iManage;2013	98;1 ·	



(Application Number)

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I believe I am the original, first and sole inventor (if only one name is listed) or an original, first and joint inventor (if plural names are listed in the signatory page(s) commencing at page 3 hereof) of the subject matter which is claimed and for which a patent is sought on the invention entitled 4-Aminopyrrolopyrimidines as Kinase Inhibitors the specification of which (check one) is attached hereto. was filed on September 17, 1999 as United States Application [X] Number or PCT International Application No. 09/399,083 and was amended on (if applicable). I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. §1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application. I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed: Prior Foreign Application(s) **Priority** Certified Not Copy Filed? Claimed NO (Number) (Country) (Day/Month/Year filed) (Day/Month/Year filed) (Number) (Country) (Number) (Day/Month/Year filed) (Country) I hereby claim the benefit under 35 U.S.C. §119(e) of any United States provisional application March 19, 1997 (Application Number) (Filing Date) September 18, 1998 60/100,834 (Filing Date) (Application Number) September 18, 1998 60/100,954

(Filing Date)

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information known by me to be material to patentability as defined in 37 C.F.R. 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

09/042,702		March 17, 1998	Pending
(Application Serial No.	)	(Filing date)	(Status: patented, pending, abandoned)
(Application Serial No.	)	(Filing date)	(Status: patented, pending, abandoned)
(Application Serial No.	)	(Filing date)	(Status: patented, pending, abandoned)
(Application Serial No.	)	(Filing date)	(Status: patented, pending, abandoned)
As a named in Hamilton, Brook, Smi Customer No. 210	th & Reyno	eby appoint the attorney lds, P.C., Two Militia l	rs and/or agents associated with  Drive, Lexington, Massachusetts 02421-4799
and			,
to prosecute this applic	ation and to	transact all business in the	he Patent and Trademark Office connected therewith.
Please send corresp	pondence to		
[X] Customer No.		21005 HAMILTON, BROOI Two Militia Drive Lexington, MA 02421	K, SMITH & REYNOLDS, P.C.
[ ] Address as fol	lows:		
Direct telepho	ne calls to: _	Richard W. Wagner, Es	sq. Telephone No.: 781-861-6240
Direct facsimi	les to:	Richard W. Wagner, Es	sq. Facsimile No.: 781-861-9540
on information and beli that willful false statem	ief are believ ents and the United State	ed to be true; and furthe like so made are punish s Code and that such wi	my own knowledge are true and that all statements made or that these statements were made with the knowledge able by fine or imprisonment, or both, under Section llful false statements may jeopardize the validity of the
Full name of sole			
or first inventor	David C	alderwood	
Inventor's Signature	David (	aldemoid	Date 2/28/01
Residence	4 McCar	thy Circle	
	Framing	ham, Massachusetts 01'	702
Citizenship	Great Br	itain	
Mailing Address	Same as	above	

Full name of second joi	nt	
inventor, if any	Lee Arnold	
Inventor's Signature		Date
Residence	216 Ruggles Street	
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Citizenship	Canada	
_	Same as above	
inventor, if any	Hormoz Mazdiyasni	
Inventor's Signature		Date
Residence	19 Old Farm Road	*
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Citizenship	U.S.A.	
Mailing Address	Same as above	
Full name of fourth join	t	
inventor, if any	Gavin C. Hirst	
Inventor's Signature		Date
Residence	112 Robert Road	
	Marlboro, Massachusetts 01752	
Citizenship	Great Britain	
Mailing Address	Same as above	
Full name of fifth joint		
inventor, if any	Bojuan B. Deng	
Inventor's Signature		Date
Residence		
······	Shrewsbury, Massachusetts 01545	
Citizenship	Peoples Republic of China	
	Same as above	<del></del>

Eull name of sixth is int		
Full name of sixth joint	D. HWILL	
•	David N. Johnston	
	Pennyfoot Street	
	Nottingham NG1 1GF, England	
Citizenship	Great Britain	
	Same as above	
Full name of seventh join		
inventor, if any	Paul Rafferty	
Inventor's Signature		Date
Residence	Pennyfoot Street	
	Nottingham NG1 1GF, England	
	Great Britain	
Mailing Address	Same as above	
		·
•	Grand D. Tometon	
_	Pennyfoot Street	
·	Nottingham NG1 1GF, England	
	Great Britain	
•	Same as above	
Full name of ninth joint		
inventor, if any	Helen L. Twigger	
Inventor's Signature	Tieldii B. T Wigget	Date
Residence	Pennyfoot Street	
residence	Nottingham NG1 1GF, England	
Citizanahin		
Citizenship		
Mailing Address	Same as above	

Full name of tenth join			
inventor, if any Rainer Munschauer			
Inventor's Signature_		Date	
Residence	Zepplinstr. 5	\	·
	67435 Neustadt, Germany		
	Germany		
	Same as above		
Full name of eleventh	joint		
Inventor's Signature		Date	
Residence			
Citizenship			

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

## Substitute Declaration for Patent Application

a named inventor, I hereby declare that:

My residence, mailing address and citizenship are as stated next to my name;

I believe I am the original, first and sole inventor (if only one name is listed) or an original, first and joint inventor (if plural names are listed in the signatory page(s) commencing at page 3 hereof) of the subject matter which is claimed and for which a patent is sought on the invention entitled

	4-Aminopyrrolopy	yrimidines as Kinas	e Inhibitors	
the spe	ecification of which (	(check one)	-	
[]	is attached hereto.			,
[X]	was filed on Sep	tember 17, 1999	as United States Application	
	Number or PCT Is	nternational Applica	ation No. 09/399,083	
	and was amended	on	(if applicable).	
includi			d understand the contents of the about dment referred to above.	ove-identified specification,
	including for continudate of the prior apple	uation-in-part appli	formation which is material to pater cations, material information which onal or PCT international filing date	became available between the
country any for	tent or inventor's cert y other than the Unit	tificate, or 365(a) of ted States of Americ patent or inventor's ication on which pr	ts under 35 U.S.C. 119(a)-(d) or 36. frange PCT international application ca, listed below and have also identic certificate, or of any PCT internationally is claimed:	which designated at least one fied below, by checking the box, onal application having a filing  Priority Certified
				Not Copy Filed? Claimed YES NO
(Numb	per)	(Country)	(Day/Month/Year filed)	MAR 2 CENTER
(Numb	per)	(Country)	(Day/Month/Year filed)	- 『
(Numb	per)	(Country)	(Day/Month/Year filed)	MAR 2 6 2001 FICENTER 1600/290
I hereb	oy claim the benefit ι	ınder 35 U.S.C. §11	19(e) of any United States provision	
	40,836		March 19, 1997	
(Appli	cation Number)		(Filing Date)	
60/10	00,834 ication Number)	<del>.</del>	September 18, 199 (Filing Date)	98
				10
	00,954 ication Number)		September 18, 199 (Filing Date)	70

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information known by me to be material to patentability as defined in 37 C.F.R. 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

09/042,702		March 17, 1998	Pending
(Application Serial No.)	1	(Filing date)	(Status: patented, pending, abandoned)
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(Application Serial No.)	· · · · · · · · · · · · · · · · · · ·	(Filing date)	(Status: patented, pending, abandoned)
(Application Serial No.)	)	(Filing date)	(Status: patented, pending, abandoned)
As a named inv Hamilton, Brook, Smit Customer No. 2100	h & Reynold	oy appoint the attorneys ards, P.C., Two Militia Driv	nd/or agents associated with ve, Lexington, Massachusetts 02421-4799
and			
to prosecute this applica	tion and to tr	ansact all business in the I	Patent and Trademark Office connected therewith.
Please send corresp	ondence to:		
[ X ] Customer No.	I	11005 HAMILTON, BROOK, S [wo Militia Drive	SMITH & REYNOLDS, P.C.
	_	Lexington, MA 02421-47	199
or	_	Lexington, MA 02421-47	99
or [ ] Address as foll	I	Lexington, MA 02421-47	99
	I	Lexington, MA 02421-47	99
[ ] Address as foll	ows:	Lexington, MA 02421-47	Telephone No.: 781-861-6240
[ ] Address as foll  Direct telephore	ows: ne calls to: <u>F</u>		
[ ] Address as foll  Direct telephor  Direct facsimil  I hereby declar on information and belichat willful false statement	ows:  ne calls to:	Richard W. Wagner, Esq. Richard W. Wagner, Esq. ements made herein of myd to be true; and further thike so made are punishable Code and that such willfu	Telephone No.: 781-861-6240
Direct telephon Direct facsimil  I hereby declar on information and belicated willful false statemed 1001 of Title 18 of the sapplication or any pater	ows:  ne calls to:	Richard W. Wagner, Esq. Richard W. Wagner, Esq. ements made herein of myd to be true; and further thike so made are punishable Code and that such willfu	Telephone No.: 781-861-6240  Facsimile No.: 781-861-9540  Town knowledge are true and that all statements made that these statements were made with the knowledge by fine or imprisonment, or both, under Section
Direct telephon Direct facsimil  I hereby declar on information and belicated willful false statemed 1001 of Title 18 of the sapplication or any pater	ows:  ne calls to:	Richard W. Wagner, Esq.  Richard W. Wagner, Esq.  ements made herein of my d to be true; and further th ike so made are punishable Code and that such willfue	Telephone No.: 781-861-6240  Facsimile No.: 781-861-9540  Town knowledge are true and that all statements made that these statements were made with the knowledge by fine or imprisonment, or both, under Section
Direct telephon Direct facsimil  I hereby declar on information and belichat willful false statemed 1001 of Title 18 of the lapplication or any pater  Full name of sole	ows:  ne calls to:I es to:I et that all state f are believe ents and the li United States at issued there	Richard W. Wagner, Esq.  Richard W. Wagner, Esq.  ements made herein of my d to be true; and further th ike so made are punishable Code and that such willfue	Telephone No.: 781-861-6240  Facsimile No.: 781-861-9540  Town knowledge are true and that all statements made these statements were made with the knowledge by fine or imprisonment, or both, under Section I false statements may jeopardize the validity of the
Direct telephon Direct facsimil  I hereby declar on information and belicated willful false statemed 1001 of Title 18 of the sapplication or any pater  Full name of sole or first inventor	ows:  ne calls to: _F es to:F ee that all state ef are believe ents and the li United States at issued there	Richard W. Wagner, Esq. Richard W. Wagner, Esq. ements made herein of my d to be true; and further th ike so made are punishable Code and that such willfue con.	Telephone No.: 781-861-6240  Facsimile No.: 781-861-9540  Town knowledge are true and that all statements made the statements were made with the knowledge by fine or imprisonment, or both, under Section I false statements may jeopardize the validity of the
Direct telephon Direct facsimil  I hereby declar on information and beliethat willful false statemed 1001 of Title 18 of the lapplication or any pater  Full name of sole or first inventor  Inventor's Signature	ows:  ne calls to:H es to:H et that all state ef are believe ents and the li United States at issued there  David Ca  4 McCart	Richard W. Wagner, Esq. Richard W. Wagner, Esq. ements made herein of my d to be true; and further th ike so made are punishable Code and that such willfue con.	Telephone No.: 781-861-6240  Facsimile No.: 781-861-9540  Town knowledge are true and that all statements made that these statements were made with the knowledge by fine or imprisonment, or both, under Section I false statements may jeopardize the validity of the
Direct telephon Direct facsimil  I hereby declar on information and beliethat willful false statemed 1001 of Title 18 of the lapplication or any pater  Full name of sole or first inventor  Inventor's Signature	ows:  ne calls to: _F es to:F te that all state ef are believe ents and the li United States at issued there  David Ca  4 McCart Framingh	Richard W. Wagner, Esq. Richard W. Wagner, Esq. ements made herein of myd to be true; and further thike so made are punishable Code and that such willfueon.  Iderwood hy Circle am, Massachusetts 01702	Telephone No.: 781-861-6240  Facsimile No.: 781-861-9540  Town knowledge are true and that all statements made the statements were made with the knowledge by fine or imprisonment, or both, under Section I false statements may jeopardize the validity of the

Full name of second joir		
•	Lee Arnold	
Residence		
	Canada	
Mailing Address	Same as above	
Full name of third joint	· · · · · · · · · · · · · · · · · · ·	
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Mailing Address	Same as above	
Full name of fifth joint		
inventor, if any	Bojuan B. Deng	
Inventor's Signature		Date
Residence		
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Citizenship		
Mailing Address		

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Inventor's Signature		Date	
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Citizenship	Great Britain		
Mailing Address	Same as above		•
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inventor, if any	Gerald B. Tometzki		
Inventor's Signature		Date	
Residence	Pennyfoot Street		
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Citizenship	Great Britain		
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Inventor's Signature		Date	
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Citizenship	Great Britain		
Mailing Address	Same as above		

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inventor, if any	Rainer Munschauer		
Inventor's Signature_		Date	
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	67435 Neustadt, Germany		
Citizenship	Germany		
Mailing Address	Same as above		
Full name of eleventh joint inventor, if any  Inventor's Signature  Residence		Date	
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